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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/669,745
Filing Date: September 24, 2003
Appellant(s): BOISSELLE ET AL.

Mr. Stephen G. Kimmet (Reg. No. 52,488)
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed July 11, 2007 appealing from the Office action mailed December 18, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is incorrect.

The amendment after final rejection filed on March 12, 2007 in response to an Office Action dated December 18, 2006 has not been entered.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

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(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,383,947	Montonen et. al.	1-1995
3,595,636	Posney et. al.	7-1971
5,139,552	Yoshizawa et. al.	8-1992

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

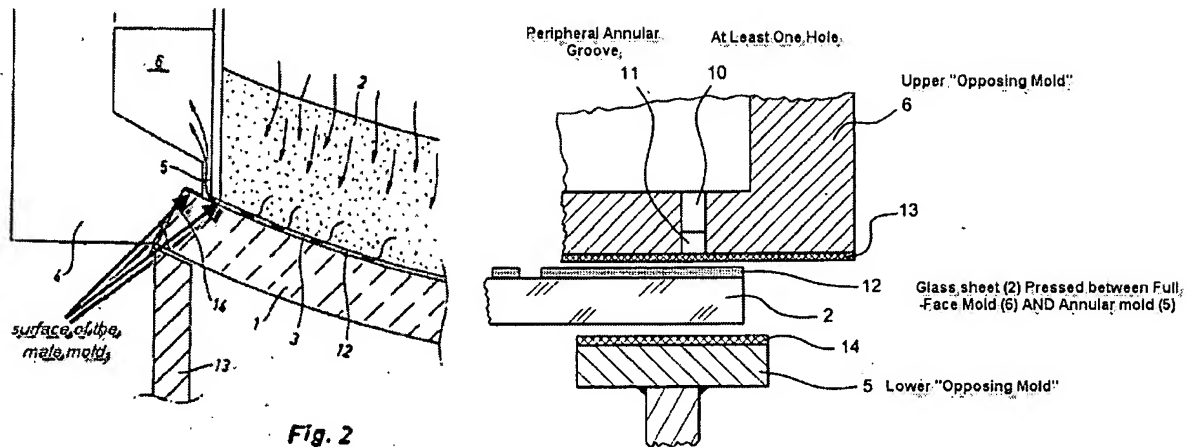
Claims 2, 3, 4, 9, 15, 16, 19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montonen (US 5,383,947) in view of Posney (US 3,595,636).

Specifically regarding independent claims 19 and 21 (see annotated figure 2 excerpt below left, and Applicants annotated excerpt figure 5 below right), Montonen teaches a press bending mold comprising an upper, curved or "full-face" mold surface and a complimentary lower supporting ring mold or "annular mold" (13). The reference teaches the presence of "a narrow annular port (5)" or peripheral annular groove which is connected with a suction channel (7) or "to a negative pressure source (Column 1, Lines 52-64).

As depicted in the instant reference figure 2, the annular channel or "groove" is formed in a region corresponding to "the molding contact area where a glass sheet is pressed between the full-face mold and the annular mold". It is evident from figure 2 that at least mold elements (4) and (2) present a molding surface to the glass sheet (1) as indicated by the annotation lines. Collectively, elements (4) and (2) would be conventionally recognized as a pressing face or alternatively as a "surface of the male

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mold", and with this point in mind, it is clear that the peripheral annular groove (5) is formed "in/on the surface of the male mold".



With respect to the identified dependent claims, it asserted that since the source of negative pressure is a fan (8) simply running the fan in reverse would yield the claimed communication between the groove and a positive pressure source as set forth in Claim 3. Further as set forth in Claim 9, Montonen teaches the presence of a "porous mold structure in the surface (12) of the full face mold. This disclosure is read in the instant claim as providing additional flow channels and through-holes in the molding face of the full-face mold inside the area enclosed by the peripheral annular groove. Finally with respect to claims 15 and 16, Montonen teaches that the full-face mold can be constructed of "a ceramic mass" (Column 2, line 65) and that electrically resistive heating elements can be provided (Column 3, Lines 9-26) in order to heat the mold.

Montonen teaches a continuous groove or "slotted annular structure" but remains silent regarding the presence of a plurality of holes located within the annular groove. Posney teaches (see excerpt Figure 3 below) a structured mold having an apertured wall contoured to the desired shape of the bent glass sheet and having elongated, shallow grooves and a row of apertures contained therein for delivery of fluid under pressure to the surface of the glass sheet.

With respect to the structure of the mold surface, Posney indicates that the recessed aperture structure in the disclosed mold is "less fragile than molds slotted throughout their entire thickness" (Column 2, Lines 63-69). Where the peripheral annular groove of the Montonen mold is understood to present a structure "slotted through the entire thickness", it would have been obvious to adopt the aperture-in-groove structure taught by Posney. The modification of the Montonen structure to include holes or apertures within the annular groove would have been an obvious alteration to one of ordinary skill in the art at the time of the invention seeking to make the mold structure less fragile as taught by Posney. Under the combined teachings of Posney and Montonen, the holes would be connected together by the at least one peripheral annular groove as set forth in Claim 6.

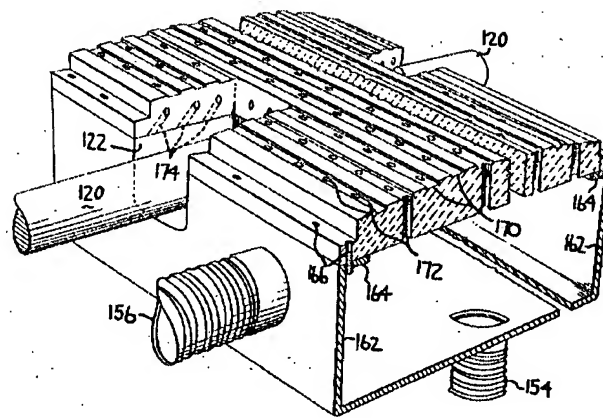


FIG. 3

Claims 6, 8, and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined prior art teachings of Montonen and Posney as applied to claims 19 and 21 above, and further in view of Yoshizawa (US 5,139,552).

Regarding Claims 6, 8, and 10-14, Montonen is silent regarding the dimensions of the annular groove, the location of the groove on the mold surface, and the presence and/or details of an air-permeable cover for the mold face. As set forth in the previous office action, Yoshizawa (US 5,139,552) lays out analogous art teachings directed to the bending of glass sheets with a structured mold surface. Specifically, the Yoshizawa mold contains a plurality of grooves defined within the mold surface and a plurality of inlet/outlet ports defined in each of the grooves. It would be reasonable for one of ordinary skill in the art at the time of the invention to have been fully aware of the Yoshizawa teachings and to look to said teachings for further detail regarding the structure of glass sheet press bending molds.

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As per the limitation set forth in applicants Claim 6, the Montonen Figure 2 clearly shows that the peripheral annular groove is set in from the outer edge of the glass sheet, however the instant reference provides no limitations upon the distance. Referring to the Yoshizawa reference (C3 L65-68), the "raised ridges or lands for contact with the glass sheet" as having a width X ranging from 0.5 mm to 10 mm. It is therefore understood from Figure 5 that "the groove" is arranged approximately 0.5 mm to 10 mm from the edge of the glass sheet. It would be reasonable for one of ordinary skill in the art at the time of the invention to arrange the Montonen peripheral annular groove set in from the outer edge of the sheet in accord with the Yoshizawa teachings. Since the range identified by Yoshizawa overlaps with the claimed limitation that said groove is arranged 5-20 mm from the outer edge of the glass, the claimed range is rendered prima facie obvious over the combined prior art teachings.

Similarly with respect to Claim 8, the Yoshizawa reference (C4 L1-3) clearly defines the dimensions of each of the grooves as having a width ranging from 2 mm to 15mm and a depth ranging from 1mm to 6mm. These disclosed ranges clearly read on the claimed depth and width of the grooves of between 4-6mm. Again, since Montonen is silent regarding groove dimensions and given the analogous nature of the Montonen and Yoshizawa teachings, it would have been an obvious choice to provide a peripheral annular groove in the Montonen mold having dimensions in the range as taught by Yoshizawa.

Regarding Claims 10 through 13 while Montonen is silent regarding application of a cover between the mold-face and the heated glass surface, Yoshizawa provides for

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multiple configurations of cloth acting as the glass contact surface. The mold covers here taught by Yoshizawa are a generally well appreciated in the art as a viable method of reduce marring of a softened glass sheet by a full-face mold in a press bending operation. The following teachings as set forth by Yoshizawa would for one of ordinary skill in the art seeking to minimize marring while bending softened glass sheets.

Therefore regarding claim 10, Yoshizawa (C4 L15-27) makes provisions for covering the molds in one or more layers of materials (See also Metallic sheet 15 and Surface member 16 in Figure 2). Further concerning claim 11, the cited passage indicates that the surface member should preferably be a woven or felt layer of glass fibers, ceramic fibers, carbon fibers, metallic fibers aramid fibers, or the like.

Yoshizawa also indicates with respect to claim 12 that "the metallic sheet 15 and surface member 16 may not be superposed, but are more effective when superposed". In Fig 5, it is also clearly implied that the surface contact member 15 has a finer structure than the metallic sheet 15. These two disclosures by Yoshizawa are collectively read on Claim 12 as covering the full face mold by two or more cloths lying one upon the other or "superposed", and whereby the cloth facing the glass (surface contact member 16) has a finer structure than the cloth next to the molding face (metallic sheet 15).

As described in the previous rejection of Claim 12, Yoshizawa makes provision for covering the molding face of the full-face mold by only one cloth in the statement that "the metallic sheet 15 and surface member 16 may not be superposed...".

Regarding claim 14, the immediate reference (C4 L24-27) indicates that the surface member can be one of either a woven or felt layer with a corresponding thickness ranging from 0.3mm to 0.5mm. This disclosure is understood to imply that the structure and the thickness of the cloth facing the glass sheet is adaptable and therefore can be adapted to the size of any impurity particle.

(10) Response to Argument

Applicant first argues (Page 13, first paragraph) that Montonen does not have an annular groove formed in the mould face. In support of this position, Applicant narrowly construes the surface of the male mold as consisting only of element (12). From this definition of the "surface of the male mold", Applicant concludes that the Montonen figure 1 does not show any groove in the surface of the mould face surface. Applicant continues by stating that port (5) and channel (6) "do not satisfy" the claimed annular groove formed on the surface of the mould (2) since the port (5) and channel (6) are radially disposed away from the mould (2).

The Examiner disagrees with Applicants interpretation of the Montonen disclosure. Specifically, it is the Examiner's position that the Applicant has misconstrued the scope and content of the Montonen reference by narrowly defining element (12) as the mold face. As presented in both the Office Action dated December 18, 2007 and in the Advisory Action dated April 3, 2007, it is evident from Montonen figure 2 that at least mold elements (4) and (2) present a molding surface to the glass

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sheet (1). It follows in the broadest reasonable interpretation of the Montonen disclosure, that the “major surface” or “mold face” of the male mold collectively comprises mold elements (2) and (4). It is further evident from figure 2 that the peripheral annular groove (5) is formed “in/on the surface of the male mold” (2 & 4).

Applicant next argues (page 14, first paragraph) that Montonen contradicts the identification of press bending elements (2) and (4) as collectively defining “the surface of the male mold”. In support of this allegation, Applicant cites the Montonen abstract which states in part that “press bending is effected between an upper curved mold surface (12) and a lower ring mold (13)”. Applicant further cites the instant reference (Column 2, lines 10-12) which states that “glass 1 has no tendency of pressing against the mould surface (12) at this suction port” (e.g. suction port 5). From this Applicant concludes that element (4) can not be construed as a part of the male mold surface.

In response, it is unclear to the Examiner precisely how the instant passages relate to the matter at issue, namely whether elements (2) and (4) define a surface or a face of the mold. Specifically, Applicants Claim 19 requires a “first mold having a major surface with at least one peripheral annular groove thereon” and Claim 21 requires “a full-face mold having a mold face, the mold face having at least one peripheral annular groove formed in the surface thereof” (emphasis added). It is the Examiner’s position as set forth above that elements (2) and (4) collectively define such “a major surface” or alternately “a mold face”. This position is supported by the Montonen figure 2 which depicts that that portion of the glass sheet (1) confined between element (4) and ring

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mold (13) is shaped or bent by cooperative action of the two molds in a manner which is similar to that portion of the sheet confined between elements (12) and (13). Since element (4) plays a role in the shaping of the glass sheet, it follows that element (4) would reasonably be considered as "part of the male mold surface".

Applicant then argues (page 14, second paragraph) that Montonen does not teach "at least one hole" defined in the annular groove and that Posney teaches horizontally elongated grooves but does not teach annular grooves (page 15, fourth paragraph). In response, Applicant is advised that the claim rejection has been made under 35 U.S.C. 103(a) over the combined teachings of Montonen and Posney. It follows with respect to Applicant's arguments against the references individually, that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant finally argues against the propriety of combining the teachings of Montonen with that of Posney. Specifically, Applicant argues that "neither Montonen nor Posney provides a suggestion or motivation to combine" one document with the other. In response to Applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention

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where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, the factors motivating one of ordinary skill in the art to combine the teachings of Posney and Montonen have been clearly set forth in previous Office communications. Specifically Applicant was advised in the Office Action dated December 18, 2006 that Montonen teaches a continuous groove or "slotted annular structure". Montonen however remains silent regarding the presence of a plurality of holes located within this annular groove. Posney indicates that the recessed aperture structure in the disclosed mold is "less fragile than molds slotted throughout their entire thickness" (Column 2, Lines 63-69).). It would have been obvious to adopt the aperture-in-groove structure taught by Posney in the mold structure taught by Montonen. The modification of the Montonen structure to include holes or apertures within the annular groove would have been an obvious alteration to one of ordinary skill in the art at the time of the invention seeking to make the mold structure less fragile as taught by Posney.

Although sufficient motivation has been provided to support the combination of the prior art references, Applicant is further advised that the recent KSR decision forecloses the argument that a specific teaching, suggestion or motivation is required to support a finding of obviousness, see the recent Board decision *Ex parte Smith*, --

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USPQ2d--, slip op. at 20, (Bd. Pat. App. & Interf. June 25, 2007). Although Applicant has acknowledged the factual deficiencies of the prior art, he has provided no reasoned argument to rebut the basis for the obviousness rejection. The rejection is deemed proper and stands as originally presented.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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